

ABSTRACT OF THE INVENTION

The invention provides a gene targeting construct containing a transgene encoding a polypeptide that contains a rod outer segment (ROS) targeting signal.

5 The transgene is flanked by 5' and 3' DNA sequences that are homologous to the rhodopsin gene. Homologous recombination between the construct and a rhodopsin gene results in operable association between the transgene and a rod-specific regulatory sequence. The invention also

10 provides cells and animals whose genome contain a functional disruption of one or both endogenous rhodopsin gene alleles, and a transgene encoding a polypeptide that contains a ROS targeting signal operably associated with a rod-specific regulatory sequence. The invention

15 constructs, cell and animals can be used to isolate transgenic polypeptides from the ROS membrane.